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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,278

01/11/2006

Toru Shiraishi

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25944 7590 10/01/2008

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ALEXANDRIA, VA 22320-4850

EXAMINER

SAVAGE, JASON L

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

10/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,278	Applicant(s) SHIRAISHI ET AL.	
	Examiner JASON L. SAVAGE	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1-11-06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20061010, 20060112, 20060111</u> . | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1 and 3-5 are rejected under 35 U.S.C. 102(a) as being anticipated by Harima (US 6,647,945).

Harima teaches a reinforcing members **4** which are integrally cast with a cast aluminum alloy metal (col. 2, ln. 30-67). Harima further teaches that the reinforcing member comprises materials different from the cast metal such as reinforce fiber filaments of heat resistant steel (col. 2, ln. 58-67). Harima also exemplifies a hollow portion in the reinforcing member such as depicted in Figure 3 as well as the circular elements in Figure 2.

Regarding claims 3-4, Harima teaches a porous fibrous material body **10** covering a portion of the reinforcing member wherein the fibrous material is metal (col. 2, ln. 52-67).

Regarding claim 5, Harima teaches that the reinforcing component is used in an engine block (col. 1, ln. 7-12).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1794

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rivers (US 6,148,785).

Rivers teaches a reinforcing member **92** comprising stacked porous fibrous plies of carbon-carbon material (col. 5, ln. 42-47). Rivers further teaches that the reinforcing member may have hollow portions such as the holes for the head bolts and cylinder bores **93** (Figure 9). Regarding the limitation that the reinforcing member is integrally cast with a cast metal; although Rivers does not explicitly recite that a cast metal is integrally cast with the reinforcing member **92**, Rivers teaches that carbon-carbon reinforcing composites are well known in the art and may be cast or molded (col. 4, ln. 33-45). As such it would have been obvious to one of ordinary skill in the art at the time of the invention to have cast a cast metal with the reinforcing member **92** since Rivers teaches that such a combination is well known.

Regarding claim 2, Rivers teaches a stacked structure which when cast would be considered plated members and openings formed therein which would be considered hollow portions. Rivers further teaches that members **96** and **98** are applied to both surfaces of the stacked reinforcing structure **92** which cover the openings (figure 9 and col. 5, ln. 42-48).

Regarding claim 3, Rivers teaches that other components which may cover and/or contact the reinforcing cylinder block member **92** may be selected from porous

Art Unit: 1794

fibrous materials such as carbon-carbon materials (col. 4, ln. 56-67) and thus would meet the claim limitation.

Regarding claims 4 and 8, although Rivers is silent the fibrous material in the porous body comprising a metal fiber, it would have been obvious to one of ordinary skill to have added other component materials to the reinforcing member including other fibers such as metal fibers in order to tailor the properties of the composite to reduce weight and minimize any thermal distortion in the component.

Regarding claim 5, Rivers does not teach that the reinforcing composite is used as a journal portion. However, Rivers teaches that the reinforcing composites are suitable for a variety of components in an engine block (col. 2, ln. 56-67). As such, it would have been obvious to one of ordinary skill in the art to have formed other components for the engine with the recited reinforcing material in order to reduce the weight and thermal distortion.

Regarding claims 6-8, Rivers would meet the claim limitations since is teaches applying or laminating onto the fibrous reinforcing member covering materials **96** and **98**.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON L. SAVAGE whose telephone number is (571)272-1542. The examiner can normally be reached on M-F 6:30-4:00.

Art Unit: 1794

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on 571-272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Savage/
9-25-08

/KEITH D. HENDRICKS/
Supervisory Patent Examiner, Art Unit 1794